



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,256	12/19/2001	Bret S. Weber	01-674	5721

24319 7590 12/07/2004

LSI LOGIC CORPORATION  
1621 BARBER LANE  
MS: D-106  
MILPITAS, CA 95035

EXAMINER
----------

NGUYEN, MIKE

ART UNIT	PAPER NUMBER
----------	--------------

2182

DATE MAILED: 12/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/025,256

Applicant(s)

WEBER ET AL.

Examiner

Mike Nguyen

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Notices & Remarks*

1. Claims 1-26 are pending for the examination.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Westby (U.S. Pat. No. 6,502,189 B1).

As to claim 1, Westby teaches an apparatus for dual porting a serial disk drive (figs 1-2 dual port node 1220, multiple disc drives 1256), comprising:

a first idle regenerator (fig. 3 Port A 20 wherein the Port A 20 includes A\_IN 3021 and A\_OUT 3023) connected to a first serial master device (fig. 2 CPU information-handling system 1202 wherein the Port A 20 connected to the system 1202 through loops 1250 and 1250'), the first serial idle regenerator being capable of receiving and transmitting signals to the first serial master device (col. 12 lines 9-27) including an idle character stream (col. 12 lines 43-49 wherein characters from the fibre channel loop 1250 are received and converted);

a second idle regenerator (fig. 3 Port B 20 wherein the Port B 20 includes B\_IN 3022 and B\_OUT 3024) connected to a second serial master device (fig. 2 CPU information-handling system 1202' wherein the Port B 20 connected to the system 1202' through loops 1250 and

Art Unit: 2182

1250'), the second idle regenerator being capable of receiving and transmitting signals to the second serial master device (col. 12 lines 9-27) including an idle character stream (col. 12 lines 43-49 wherein characters from the fibre channel loop 1250 are received and converted);

a third idle regenerator (fig. 1 on-chip buffer 119) connected to the serial disk drive and the first and second idle regenerators (col. 8 lines 10-18), wherein the third idle regenerator is capable of communicating with the serial disk drive and the first and second idle regenerators (col. 8 lines 7-26); and

synchronization logic (fig. 4 word-sync state machine 23) capable of synchronizing data transfers between one of the first idle regenerator and the second regenerator, and the third idle regenerator (col. 13 lines 10-41), wherein the synchronization logic is connected to the first, the second and the third idle regenerators (wherein the word-sync state machine 23 is connected to A\_IN/B\_IN and A\_OUT/B\_OUT).

As to claims 2 and 18, Westby teaches an auto detector (fig. 4 detector 24) connected to the first and the second idle regenerators, wherein the auto detector is capable of controlling data transfer to the first and the second idle regenerators based on the presence of the idle characters from the first and the second serial master devices (col. 13 lines 20-28).

As to claim 3, Westby teaches the apparatus for dual porting a serial disk drive of claim 2, wherein the auto detector is capable of switch between the first and the second serial masters (col. 13 lines 20-28).

Art Unit: 2182

As to claims 4, 12, 19 and 24, Westby teaches the auto detector enables communication with a single serial master at a time (col. 16 lines 47-56).

As to claims 5, 11 and 20, Westby teaches the dual porting apparatus is suitable for utilization with a serial advance technology attachment disk drive (col. 9 lines 16-22).

As to claims 6, 13 and 21, Westby teaches the dual porting apparatus is suitable for utilization with fibre channel based communication (fig. 1 fibre channel loop 1250).

As to claims 7 and 14, Westby teaches the synchronization logic is capable of providing synchronization for idle character switch (col. 13 line 43 to col. 14 line 7).

As to claims 8, 15, 22 and 25, Westby teaches the dual porting apparatus is embodied in an application specified integrated circuit (col. 10 lines 14-18).

As to claims 9, 16 and 26, Westby teaches the dual porting apparatus is integrated with the serial disk drive (col. 8 lines 7-10).

As to claim 10, Westby teaches an apparatus for dual porting a serial disk drive (figs 1-2 dual port node 1220, multiple disc drives 1256), comprising:

a first idle regenerator (fig. 3 Port A 20 wherein the Port A 20 includes A\_IN 3021 and A\_OUT 3023) connected to a first serial master device (fig. 2 CPU information-handling system

Art Unit: 2182

1202 wherein the Port A 20 connected to the system 1202 through loops 1250 and 1250'), the first serial idle regenerator being capable of receiving and transmitting signals to the first serial master device (col. 12 lines 9-27) including an idle character stream (col. 12 lines 43-49 wherein characters from the fibre channel loop 1250 are received and converted);

a second idle regenerator (fig. 3 Port B 20 wherein the Port B 20 includes B\_IN 3022 and B\_OUT 3024) connected to a second serial master device (fig. 2 CPU information-handling system 1202' wherein the Port B 20 connected to the system 1202' through loops 1250 and 1250'), the second idle regenerator being capable of receiving and transmitting signals to the second serial master device (col. 12 lines 9-27) including an idle character stream (col. 12 lines 43-49 wherein characters from the fibre channel loop 1250 are received and converted);

a third idle regenerator (fig. 1 on-chip buffer 119) connected to the serial disk drive and the first and second idle regenerators (col. 8 lines 10-18), wherein the third idle regenerator is capable of communicating with the serial disk drive and the first and second idle regenerators (col. 8 lines 7-26);

synchronization logic (fig. 4 word-sync state machine 23) capable of synchronizing data transfers between one of the first idle regenerator and the second regenerator, and the third idle regenerator (col. 13 lines 10-41), wherein the synchronization logic is connected to the first, the second and the third idle regenerators (wherein the word-sync state machine 23 is connected to A\_IN/B\_IN and A\_OUT/B\_OUT); and

an auto detector (fig. 4 detector 24) connected to the first and the second idle regenerators, wherein the auto detector is capable of controlling data transfers to the first and the

Art Unit: 2182

second idle regenerators based on the presence of idle characters from the first and second serial master devices (col. 13 lines 20-28).

As to claim 17, Westby teaches an apparatus for dual porting a serial disk drive (figs 1-2 dual port node 1220, multiple disc drives 1256), comprising:

a first means for regenerating an idle character stream (fig. 3 Port A 20 col. 12 lines 43-49 wherein the Port A 20 includes A\_IN 3021 and A\_OUT 3023 and characters from the fibre channel loop 1250 are received and converted), connected to a first serial master device (fig. 2 CPU information-handling system 1202 wherein the Port A 20 connected to the system 1202 through loops 1250 and 1250'), wherein the first idle regenerating means is capable of transmitting and receiving signals to and from the first serial master device (col. 12 lines 9-27);

a second means for regenerating an idle character stream (fig. 3 Port B 20 col. 12 lines 43-49 wherein the Port B 20 includes B\_IN 3022 and B\_OUT 3024 characters from the fibre channel loop 1250 are received and converted), connected to a second serial master device (fig. 2 CPU information-handling system 1202' wherein the Port B 20 connected to the system 1202' through loops 1250 and 1250'), wherein the second idle regenerating is capable of transmitting and receiving signals to and from the second serial master device (col. 12 lines 9-27);

a means for communicating serial disk drive data connected to the serial disk drive (fig. 1 on-chip buffer 119), the drive communication means being connected to the first and second idle data stream means (col. 8 lines 10-18), wherein the drive communication means is capable of generating an idle data stream (col. 8 lines 7-26); and

Art Unit: 2182

a means for synchronizing communications (fig. 4 word-sync state machine 23) between the first and the second idle regenerating means and the disk drive communication means (col. 13 lines 10-41).

As to claim 23, Westby teaches an apparatus for dual porting a serial advanced technology attachment disk drive (figs 1-2 dual port node 1220, multiple disc drives 1256) for utilization in fibre channel based communication (fibre channel loop 1250), comprising:

a first idle regenerator (fig. 3 Port A 20 wherein the Port A 20 includes A\_IN 3021 and A\_OUT 3023) connected to a first serial master device (fig. 2 CPU information-handling system 1202 wherein the Port A 20 connected to the system 1202 through loops 1250 and 1250'), the first serial idle regenerator being capable of receiving and transmitting signals to the first serial master device (col. 12 lines 9-27) including an idle character stream (col. 12 lines 43-49 wherein characters from the fibre channel loop 1250 are received and converted);

a second idle regenerator (fig. 3 Port B 20 wherein the Port B 20 includes B\_IN 3022 and B\_OUT 3024) connected to a second serial master device (fig. 2 CPU information-handling system 1202' wherein the Port B 20 connected to the system 1202' through loops 1250 and 1250'), the second idle regenerator being capable of receiving and transmitting signals to the second serial master device (col. 12 lines 9-27) including an idle character stream (col. 12 lines 43-49 wherein characters from the fibre channel loop 1250 are received and converted);

a third idle regenerator (fig. 1 on-chip buffer 119) connected to the serial disk drive and the first and second idle regenerators (col. 8 lines 10-18), wherein the third idle regenerator is



Art Unit: 2182

capable of communicating with the serial disk drive and the first and second idle regenerators (col. 8 lines 7-26);

synchronization logic (fig. 4 word-sync state machine 23) capable of synchronizing data transfers between one of the first idle regenerator and the second regenerator, and the third idle regenerator (col. 13 lines 10-41), wherein the synchronization logic is connected to the first, the second and the third idle regenerators (wherein the word-sync state machine 23 is connected to A\_IN/B\_IN and A\_OUT/B\_OUT); and

an auto detector (fig. 4 detector 24) connected to the first and the second idle regenerators, wherein the auto detector is capable of controlling data transfers to the first and the second idle regenerators based on the presence of idle characters from the first and second serial master devices (col. 13 lines 20-28).

### *Conclusion*

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. No. 6,574,687 B1 (Teachout et al.)

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Nguyen whose telephone number is 571 272-4153. The examiner can normally be reached on 8:00AM-4:30PM.

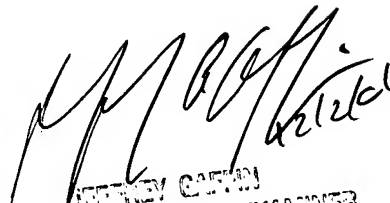
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571 272-4146. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2182

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mike Nguyen  
Patent Examiner  
Group Art Unit 2182

12/01/2004

  
JEFFREY CATON  
SUPERVISOR PATENT EXAMINER  
TECHNOLOGY CENTER 2182